

**Amendment to the Claims:**

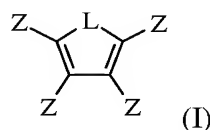
This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

WHAT IS CLAIMED IS:

1. (currently amended) A compound comprising i) one or more dienophile groups (A-functional groups), ii) one or more ring structures comprising two conjugated carbon-to-carbon double bonds and a leaving group L (B-functional groups), and iii) one or more chemically bound mesogenic poragen forming moieties, characterized in that the A-functional group is capable of reaction under cycloaddition reaction conditions with the B-functional group to thereby form a low dielectric constant, cross-linked, polyphenylene polymer.

2. (original) A compound according to claim 1 corresponding to the formula,



wherein L is -O-, -S-, -N=N-, -C(O)-, -(SO<sub>2</sub>)-, or -OC(O)- ;

Z is independently in each occurrence hydrogen, halogen, an unsubstituted or inertly substituted hydrocarbyl group, Z''X, or two adjacent Z groups together with the carbons to which they are attached form a fused aromatic ring,

Z'' is a divalent derivative of an unsubstituted or inertly substituted hydrocarbyl group joining two or more structures of formula (I), or joining an A-functionality, a bound mesogenic poragen forming moiety, or a moiety comprising both an A-functionality and a bound mesogenic poragen forming moiety,

X is a second structure of formula (I), a moiety comprising A-functionality, a group comprising a mesogenic poragen forming moiety, or a moiety comprising both an A-functionality and a mesogenic poragen forming moiety

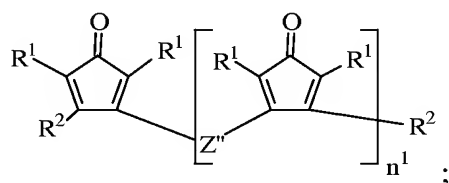
and in at least one occurrence, Z is a Z''X group of the formula: -Z''-C≡CM; or

in at least one occurrence, Z is a Z''X group of the formula:  $-Z''-C\equiv CR$  and in at least one other occurrence Z is a Z''X group comprising a mesogenic poragen forming moiety; wherein,

M is independently each occurrence a bound mesogenic poragen forming moiety; and

R is independently each occurrence selected from the group consisting of hydrogen, C<sub>1-4</sub> alkyl, C<sub>6-60</sub> aryl, and C<sub>7-60</sub> inertly substituted aryl groups.

3. (original) A compound according to claim 2 corresponding to the formula:



wherein R<sup>1</sup> independently each occurrence is C<sub>6-20</sub> aryl, C<sub>6-20</sub> inertly substituted aryl, or R<sup>2</sup>;

R<sup>2</sup> is C<sub>6-20</sub> aryl- substituted ethynyl, -Z''-M, C<sub>6-20</sub> aryl, or C<sub>6-20</sub> inertly substituted aryl;

Z'' is a divalent linking group, and

M is a bound mesogenic poragen forming moiety,

n<sup>1</sup> is a number greater than or equal to zero;

with the proviso that in at least one occurrence R<sup>1</sup> or R<sup>2</sup> is C<sub>6-20</sub> aryl- substituted ethynyl, and in at least one other occurrence R<sup>1</sup> or R<sup>2</sup> is -Z''-M.

4. (original) A compound according to claim 3 wherein

R<sup>1</sup> and R<sup>2</sup> groups are independently selected from the group consisting of: C<sub>6-20</sub> aryl- substituted ethynyl, -Z''-M, -C≡C-M, C<sub>6-20</sub> aryl, and inertly substituted C<sub>6-20</sub> aryl;

Z'' is selected from the group consisting of: phenylene, biphenylene, phenyleneoxyphenylene, ethynylene, -phenylene-C<sub>1-12</sub> alkylene-, -phenylene-O-C<sub>1-12</sub> alkylene-, -phenylene-C<sub>1-12</sub> alkylene-O-, -phenylene-O-C<sub>1-12</sub> alkylene-O-, -phenylene-CO-, -phenylene-O-, -phenylene-OC(O)-, -phenylene-C(O)O-, -phenylene-C(O)-NH-,

-phenylene-NH-C(O)-, -phenylene-OC(O)O-, -phenylene-NHC(O)O-,  
-phenylene-OC(O)NH-, -phenylene-NHC(O)NH-, -phenylene-C<sub>1-12</sub> alkylene-C(O)O-,  
-phenylene-C<sub>1-12</sub> alkylene-C(O)NH-, -phenylene-C<sub>1-12</sub> alkylene-OC(O)-,  
-phenylene-C<sub>1-12</sub> alkylene-OC(O)NH-, -phenylene-C<sub>1-12</sub> alkylene-NHC(O)O-,  
-phenylene-C<sub>1-12</sub> alkylene-OC(O)O-, -phenylene-C<sub>1-12</sub> alkylene-NHC(O)NH-,  
-phenylene-O-C<sub>1-12</sub> alkylene-C(O)O-, -phenylene-O-C<sub>1-12</sub> alkylene-C(O)NH-,  
-phenylene-O-C<sub>1-12</sub> alkylene-OC(O)-, -phenylene-O-C<sub>1-12</sub> alkylene-OC(O)NH-,  
-phenylene-O-C<sub>1-12</sub> alkylene-NHC(O)O-, -phenylene-O-C<sub>1-12</sub> alkylene-OC(O)O- and  
-phenylene-O-C<sub>1-12</sub> alkylene-NHC(O)NH-; and

M is a discotic mesogenic poragen forming moiety.

5. (currently amended) A cross-linked polymer formed by curing a composition comprising a compound according to claim 1 ~~any one of claims 1-4~~.

6. (original) A porous matrix formed by removing of self-assembled poragens formed from bound mesogenic poragen forming moieties in the cross-linked polymer of claim 5.